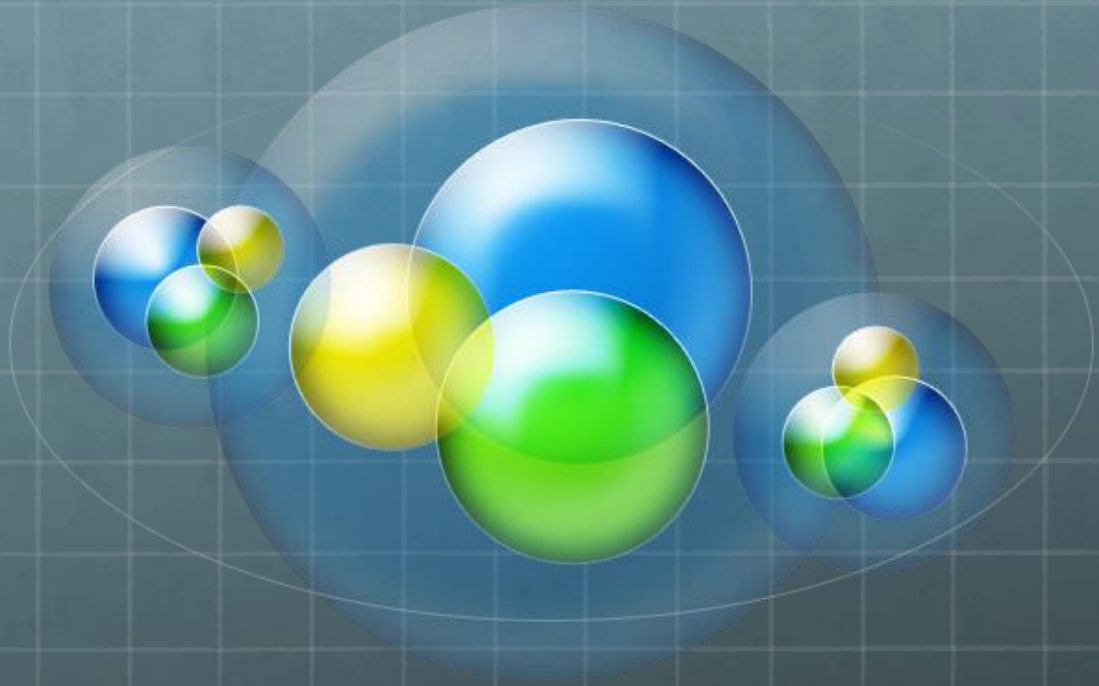
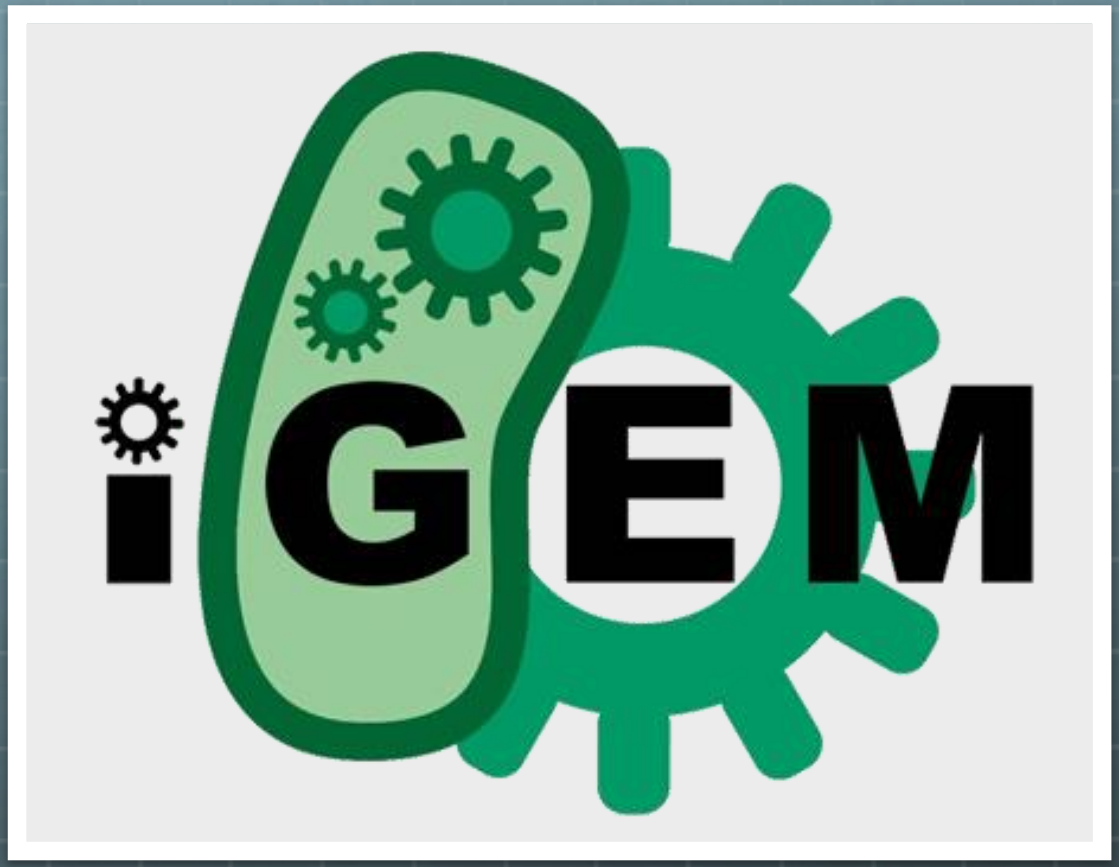


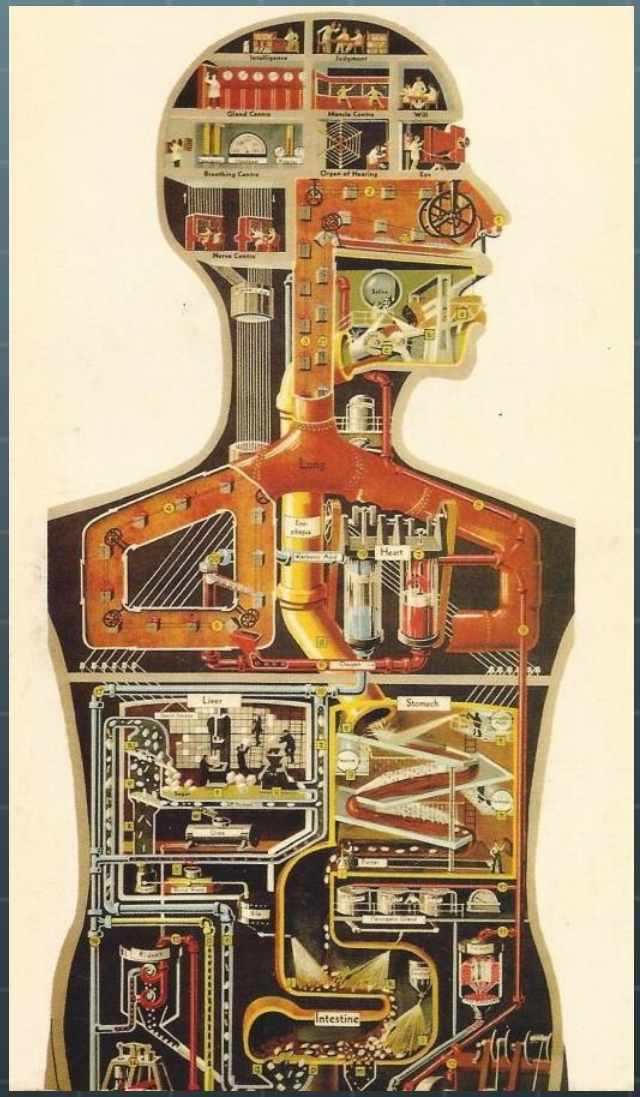
Synthetic Biology and iGEM



Genetically Engineered Machine (iGEM) Competition

iGEM Jamboree 2015

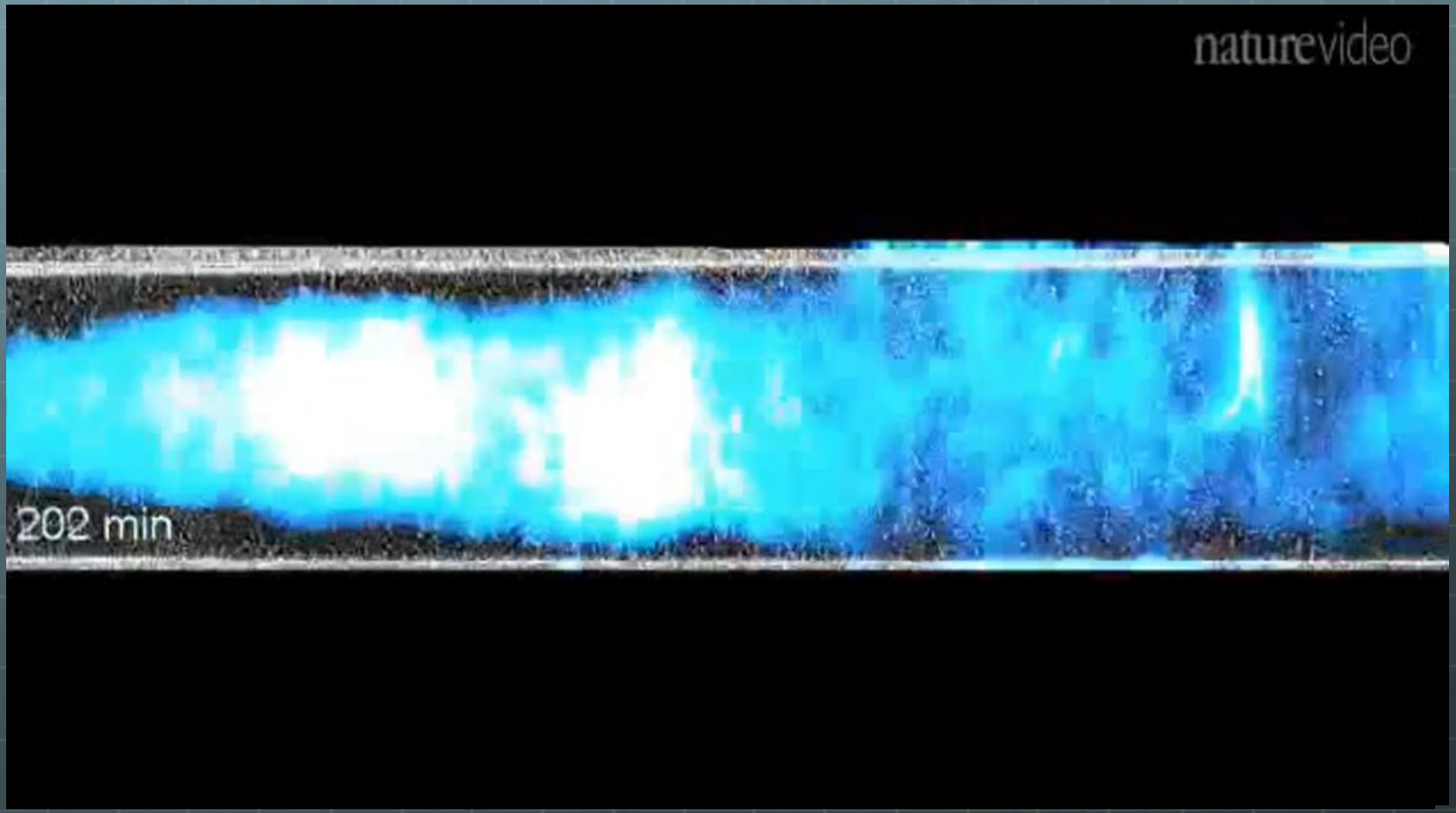
Synthetic biology: what is it?



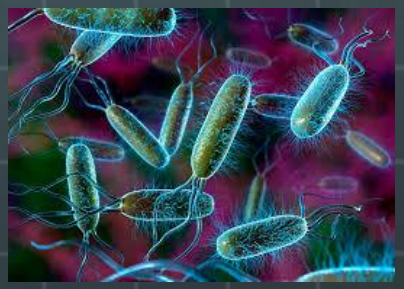
Cover of *Man Modified*, David Fishlock

“The Lego of Life”

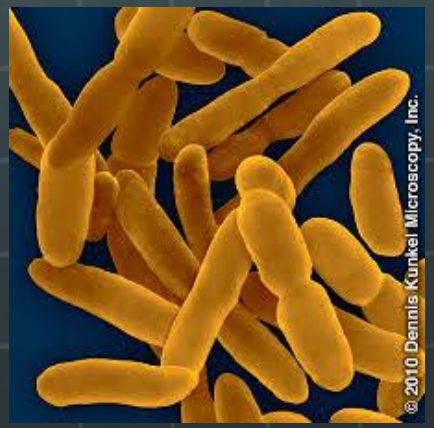
Synthetic biology: how do we do it?


naturevideo
202 min

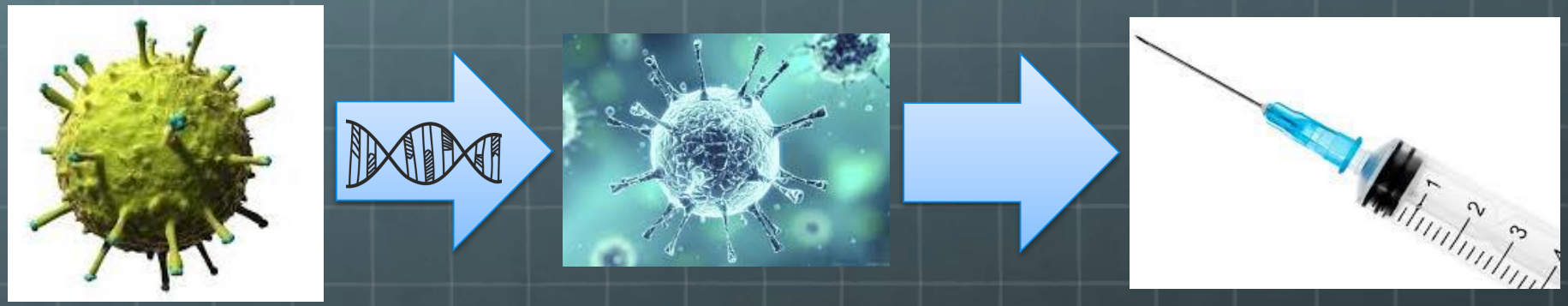
Synthetic biology: why is it important?



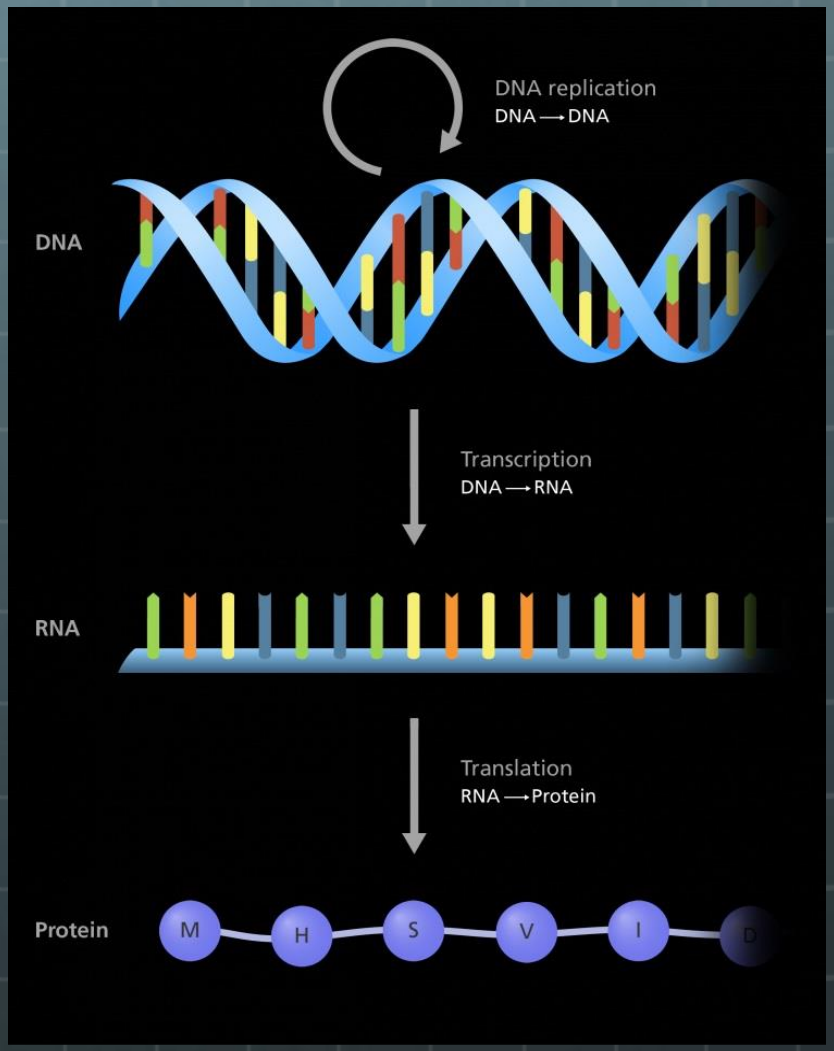
Synthetic biology: why is it important?

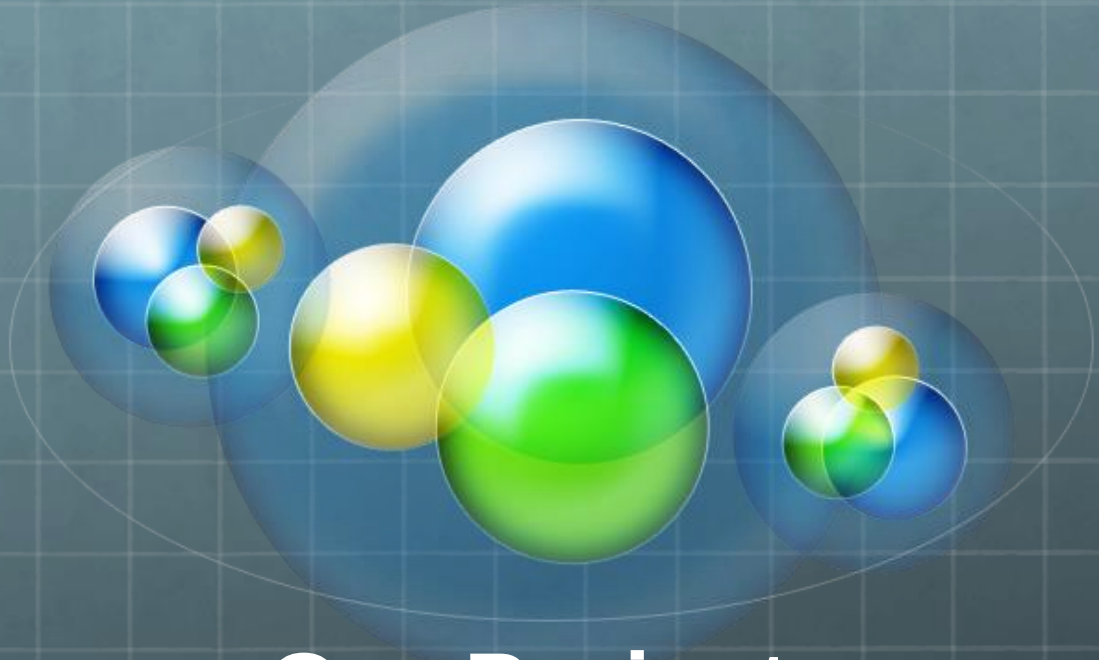


Synthetic biology: why is it important?



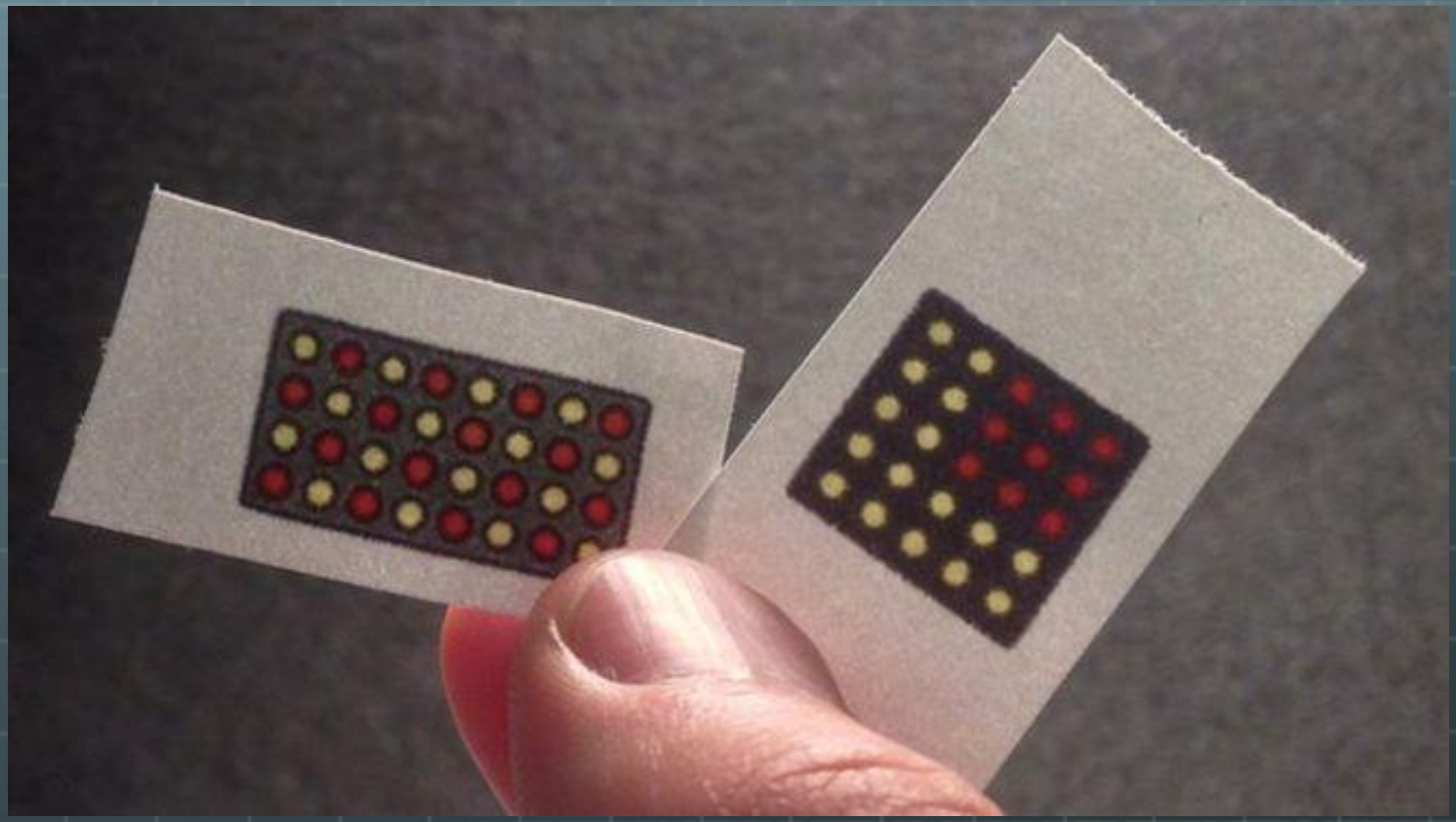
Transcription and Translation





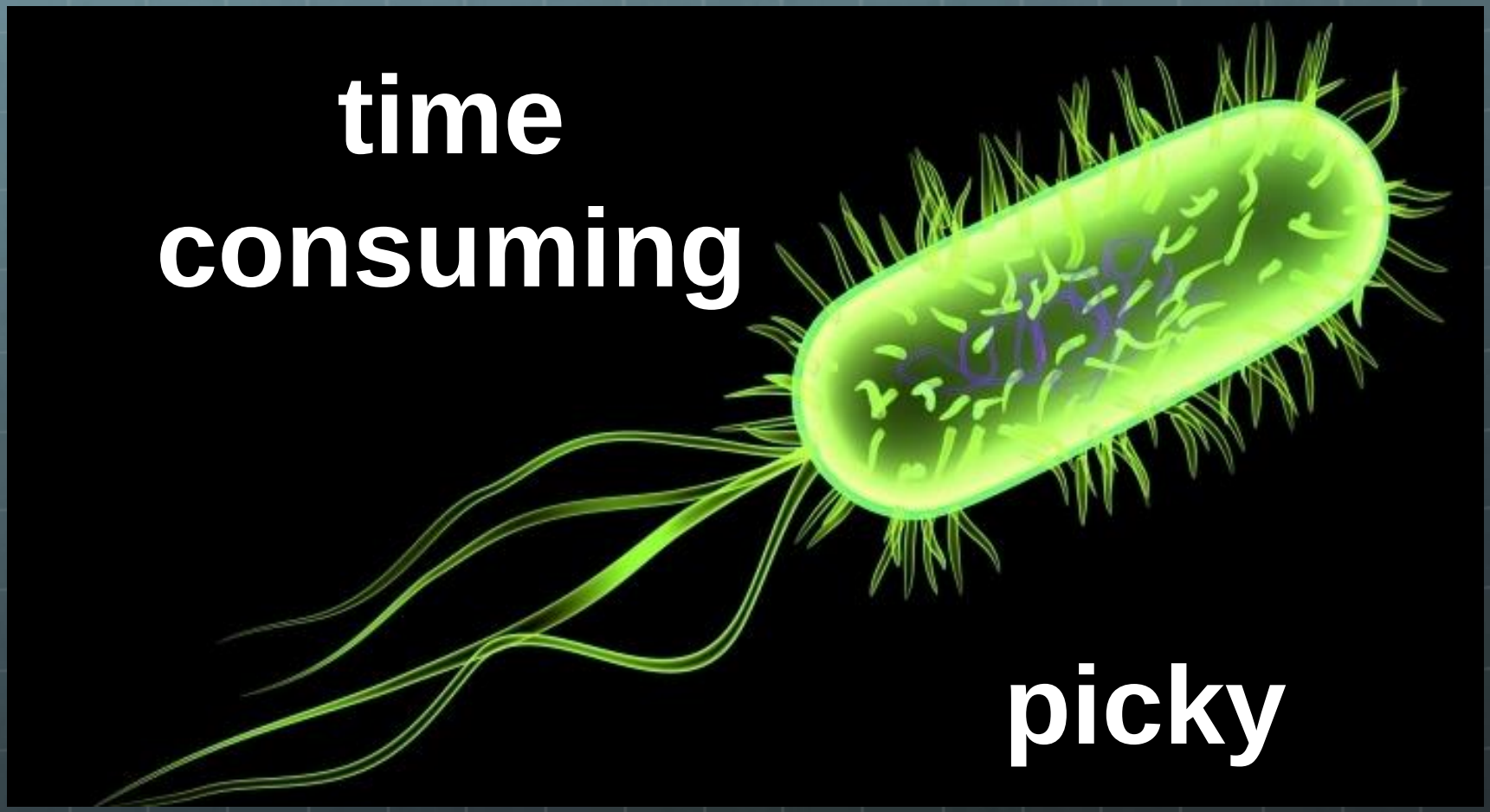
Our Project: Paper-Based Cell-Free Thallium Sensor

Paper-Based Sensor

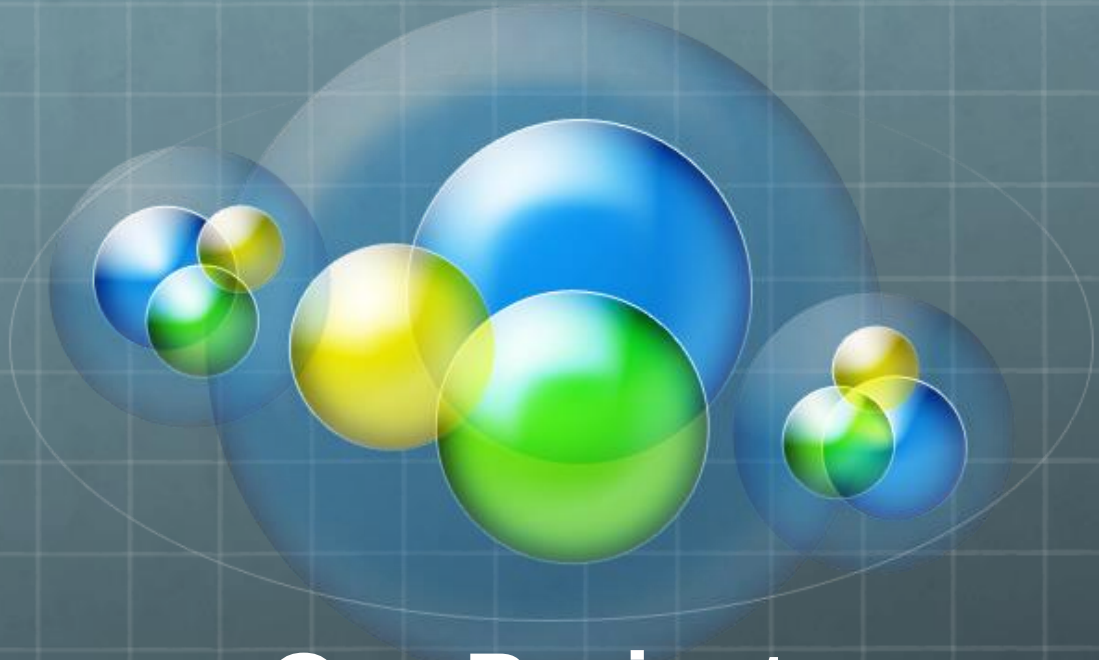


BBC, “Prototype paper test can detect Ebola strains”

Cell-Free

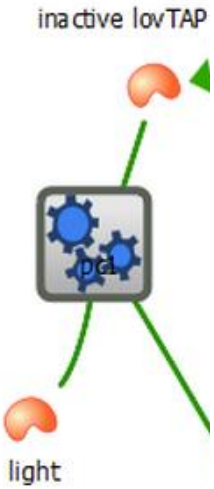


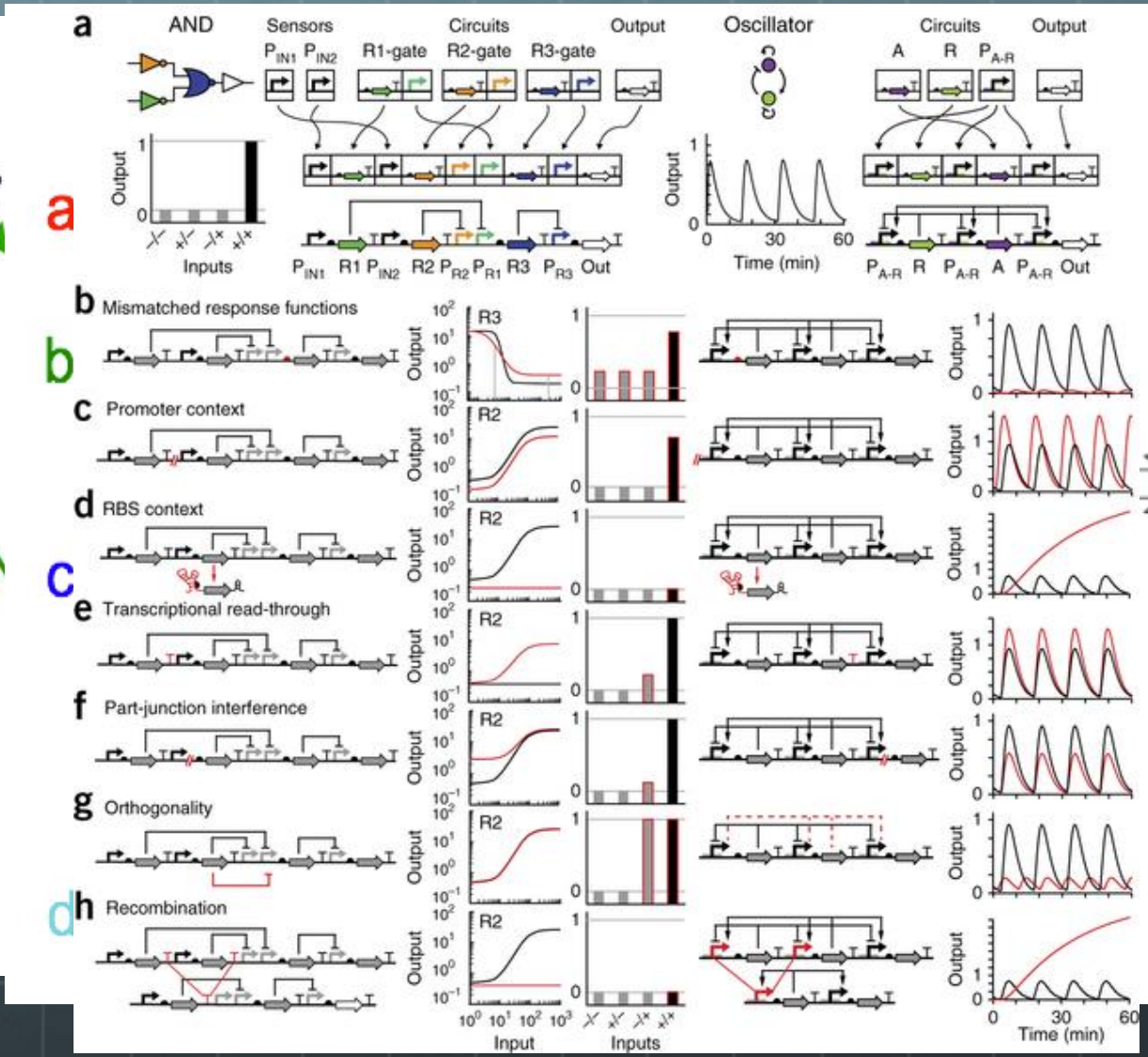
Thallium



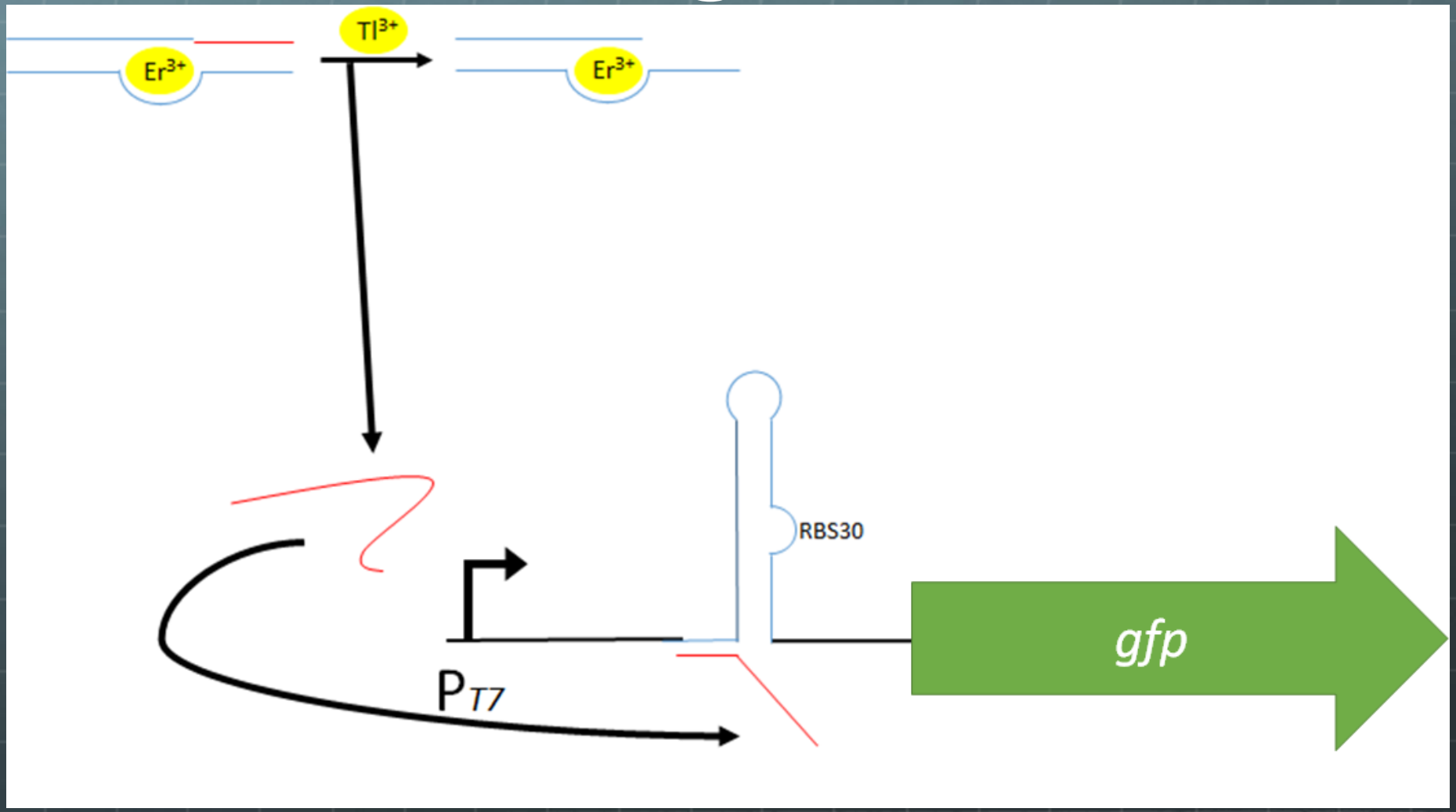
Our Project: Paper-Based Cell-Free Thallium Sensor

Genetic Circuits

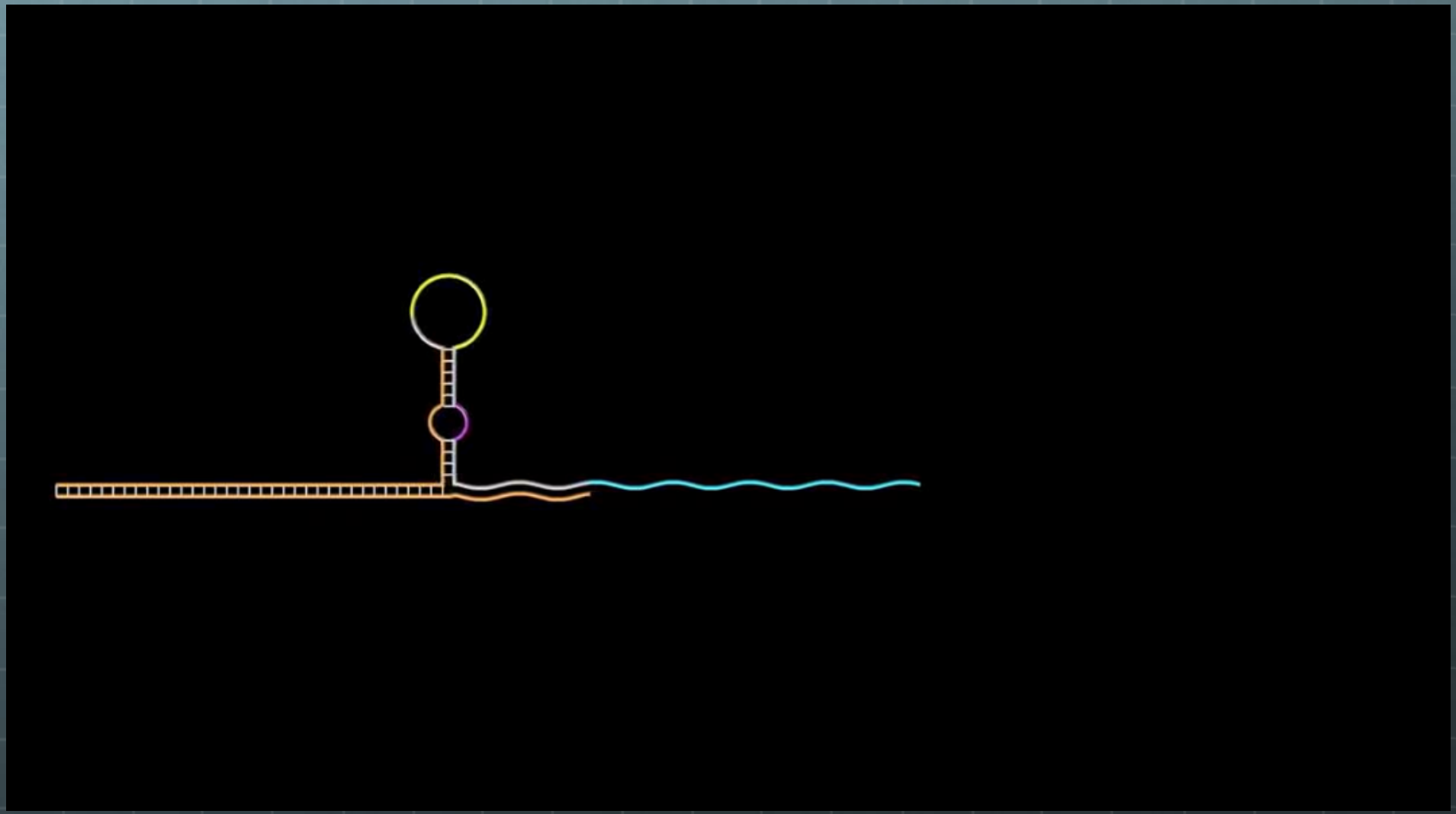




Genetic Circuit Diagram

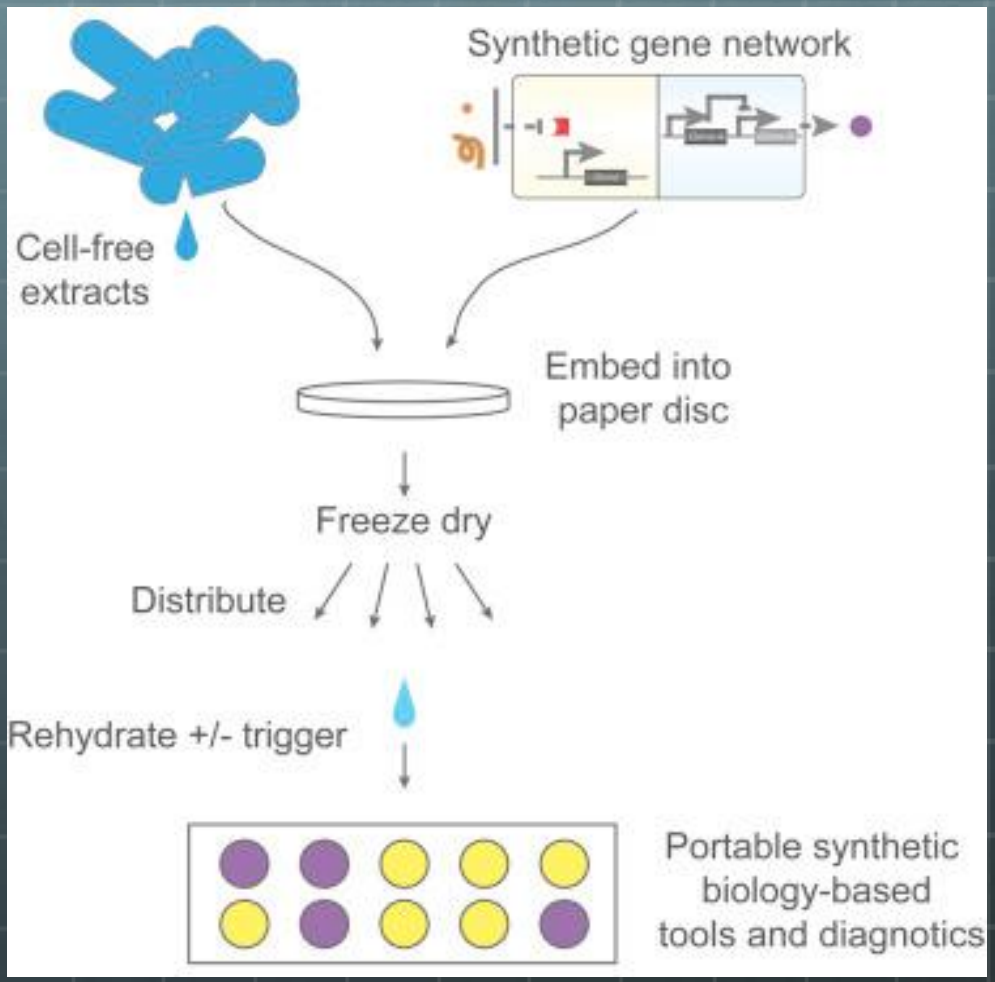


Toehold Switch



Mechanism of the Toehold Switch, Harvard University, 2014

Cell-Free, Paper-Based Sensor



Paper-Based Synthetic Gene Networks, Pardee et al., 2014

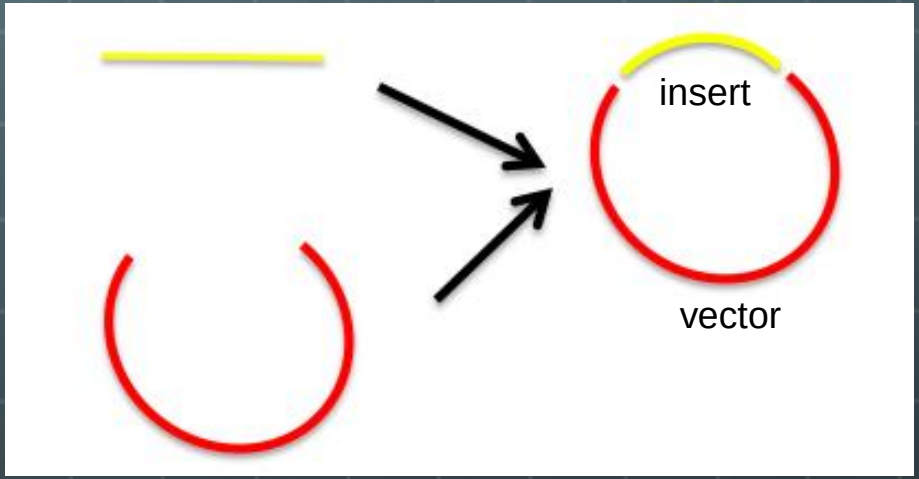
Cloning

Step 1: Cut DNA

Step 2: Gel Electrophoresis

Step 3: Ligate DNA

Step 4: Transformation



PCR

- **Polymerase Chain Reaction**